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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/558,726	11/30/2005	Manel Collados Asensio	NL 030628	7201

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EXAMINER

AFSHAR, KAMRAN

ART UNIT	PAPER NUMBER
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2617

NOTIFICATION DATE	DELIVERY MODE
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04/14/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/558,726	Applicant(s) COLLADOS ASENSIO ET AL.	
	Examiner KAMRAN AFSHAR	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 December 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4,7,9 and 10 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

In view of Applicant's Arguments, the Objection to the specification has been withdrawn.

Response to Arguments

1. Applicant's arguments filed on 12/24/2008 have been fully considered but they are not persuasive.

In response to applicant's argument that the reference Matero (U.S. Patent 6,215,988 B1, herein after Matero) fail to show certain features of applicant's invention particularly (i.e. particularly: Claim 1 recites a receiver "arranged to simultaneously receive at least a first radio frequency signal having a first frequency band and a second radio frequency signal having a second frequency band that is at least partly overlapping the first frequency band). Examiner very kindly directs the Applicants to Matero (See Matero e.g. transmit section, receive section, transceiver (or transmit/receiver section) of Fig. 3) or arranged to simultaneously receive at least a first radio frequency signal having a first frequency band and a second radio frequency signal having a second frequency band that is at least partly overlapping (See Matero e.g. frequency band 890-915 partially overlaps with 829-849, Co. 2, Lines 65-67, 108-1880 band partially overlapping with 1850-1910 band Co. 3, Lines 2-5) the first frequency band (See Matero e.g. a receiver / a transmitter a RF transceiver that receives / transmit RF signals in the first frequency band and in the second frequency band, Co. 2, Lines 16-26). More specifically, considering 1805-1880 Band partially overlaps with 1850-1910 Band (See Matero e.g. Co. 3, Lines 1-4). It is noted the Examiner only relies on reference Shippee (U.S. Pub. No.: 2004/0142723 A1) only to show similar wording are being used as how simultaneously receive at least two signals at different frequency bands (or bandwidths) that bands partially overlapping with each other: Fore example See Shippee e.g. Page 1, ¶ 1, ¶ [0014], a wireless communication device (e.g. transceiver or transmitter/ receiver) to simultaneously receive at least two signals. Further, Shippee states on Page, 2, ¶ [0022] that: **A method and apparatus configured (or arranged or adapted) to simultaneously receive multiple signals (emphases added)** using a shared receive path are disclosed. Using the method or apparatus, a WCDMA signal may be

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received and converted to a WCDMA baseband signal. Simultaneously, a GSM signal may be received and converted to a GSM baseband signal. At least a portion of the bandwidth occupied by the WCDMA baseband signal overlaps a portion of the bandwidth occupied by the GSM baseband signal (emphases added). Therefore, it is believed that Matero does indeed e. g. simultaneously receive at least two signals at different frequency bands (or bandwidths) that bands partially overlapping with each other as discussed above.

Further, Applicant(s) are reminded that the Examiner is entitled to give the broadest reasonable interpretation to the language of the claim. The Examiner is not limited to Applicant's definition, which is not specifically set forth in the claims, *In re Tanaka et al*, 193 USPQ 139, (CCPA) 1977 (emphases added). Therefore, the previous rejection is maintained.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-7 and 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matero (U.S. Patent 6,215,988 B1) in view of Van Rooyen (U.S. Patent 7,263,146 B2, Provisional filed on June 24, 2002).

With respect to claims 1, 4, 7, 9-10, Matero teaches method / a transceiver /or transmitter or receiver (See Matero e.g. transmit section, receive section, transceiver (or transmit/receiver section) of Fig. 3) or arranged to simultaneously receive at least a first radio frequency signal having a first frequency band and a second radio frequency signal having a second frequency band that is at least partly overlapping (See Matero e.g. frequency band 890-915 partially overlaps with 829-849, Co. 2, Lines 65-

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67, 108-1880 band partially overlapping with 1850-1910 band Co. 3, Lines 2-5) the first frequency band (See Matero e.g. a receiver / a transmitter a RF transceiver that receives / transmit RF signals in the first frequency band and in the second frequency band, Co. 2, Lines 16-26), the receiver comprising: frequency down-conversion means for frequency down-converting the at least first and second radio frequency signals to at least a first and a second lower frequency signal (See Matero e.g. downconversion, low IF Co. 4, Lines 30-31, See Matero e.g. first IF, second IF, Co. 3, Lines 50-52. Although Matero states that the BAND signal could be used to multiplex the transmitter control signals and or demultiplexing means for demultiplexing the frequency multiplexed signal into at least a first and a second lower frequency signal. However, Matero does not explicitly teach multiplexing means for sequentially multiplexing the at least first and second lower frequency signals into a frequency multiplexed signal. In an analogous field of endeavor, Van Rooyen teaches the concept of multiplexing means for sequentially multiplexing the at least first and second lower frequency signals into a frequency multiplexed signal (See Van Rooyen e.g. 608 of Fig. 6, Co. 9, Lines 38-45) and or demultiplexing means (48) for demultiplexing the frequency multiplexed signal into at least a first and a second lower frequency signal (See Van Rooyen e.g. Co. 9, Lines 38-45, 638 of Fig. 6, Co. 11, Lines 40-45). Therefore, it would have been obvious to one ordinary skill in the art at the time of the invention to provide above teaching of Van Rooyen to Matero to utilize a digital demultiplexer or a digital multiplexer for multiplexing of the signals received from a number of antenna elements onto a common received chain processing path in order to reduce overall power consumption as suggested (See Van Rooyen e.g. Co. 6, Lines 3-6).

Regarding claim 2, it is obvious that the receiver further comprises an analogue to digital converter for digitizing (See Matero e.g. Co. analog to digital, and digital to analog converters, Co. 3, Lines 66-67) the frequency multiplexed signal (See Van Rooyen e.g. 608 of Fig. 6, Co. 9, Lines 38-45).

Regarding claim 3, it is obvious that the receiver further comprises demultiplexing (36) means for demultiplexing the digitized frequency multiplexed signal into at least a first and a second signal (See Van Rooyen e.g. 608 of Fig. 6, Co. 9, Lines 38-45, 638 of Fig. 6, Co. 11, Lines 40-45).

Regarding claim 5, the at least first and second signals are digital signals (See Van Rooyen e.g. S1(t), and S2(t), Co. 9, Lines 65-66).

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Regarding claim 6, it is obvious that the multiplexing (See Van Rooyen e.g. 608 of Fig. 6, Co. 9, Lines 38-45) means comprises a digital to analogue converter (See Van Rooyen e.g. e.g. 634, 636 of Fig. 6, Matero e.g. Co. analog to digital, and digital to analog converters, Co. 3, Lines 66-67) for converting the sequentially multiplexed first and second digital signals to a frequency multiplexed signal (See Van Rooyen e.g. 608 of Fig. 6, Co. 9, Lines 38-45).

Allowable Subject Matter

4. Claim 8 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

With respect to claim 8, the prior art of record fails to disclose singly or in combination or render obvious that the transceiver further comprising a transmitter that is arranged to simultaneously transmit at least a third radio frequency signal having a third frequency band and a fourth radio frequency signal having a fourth frequency band that is at least partly overlapping the third frequency band, the transmitter comprising: signal multiplexing means for sequentially multiplexing at least a third and a second signal into a frequency multiplexed signal; demultiplexing means for demultiplexing the frequency multiplexed signal into at least a third and a fourth lower frequency signal; frequency up-converting means for frequency up-converting the third lower frequency signal into the third radio frequency signal and for frequency up-converting the fourth lower frequency signal into the fourth radio frequency signal.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date

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of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) Shippee (U.S. Pub. No.: 2004/0142723 A1).

b) Smith (U.S. %, 796, 772 A).

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Kamran Afshar whose telephone number is (571) 272-7796. The examiner can be reached on Monday-Friday.

If attempts to reach the examiner by the telephone are unsuccessful, the examiner's supervisor, **Eng, George** can be reached @ (571) 272-7495. The fax number for the organization where this application or proceeding is assigned is **571-273-8300** for all communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Kamran Afshar/

Primary Examiner, Art Unit 2617